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Docket No.: SGL 02/25

CERTIFICATION OF MAILING OR TRANSMISSION

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Werner H. Stemer

November 14, 2006
Date

Certificate
NOV 17 2006
of Correction

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Number	:	US 6,979,377 B2	Confirmation No.: 7490
Patentee	:	Rainer Bünis et al.	
Issue Date	:	December 27, 2005	
Title	:	Method for Producing Components from Fiber-Reinforced Composite Ceramic and Methods for using the Components	
Customer No.	:	24131	

SECOND REQUEST FOR CERTIFICATE OF CORRECTION
UNDER 37 CFR 1.322

Hon. Commissioner for Patents
Alexandria, VA 22313-1450
MAIL STOP PETITIONS

Sir:

This request is filed in response to the Decision, dated February 7, 2006 received in the above-identified patent from the *Decisions and Certificate of Correction Branch* denying patentees' request for a *Certificate of Correction*. It is stated in the Decision that the patent is printed in accordance with the Office records, i.e. "as passed to issue by the Examiner", and that, therefore, no correction is in place.

Patentees requested that certain reference numerals in columns 3 and 4 be corrected to read in accordance with the application as filed on October 8, 2003. Patentees have reviewed their file once more and have determined that the Office records are incorrect. Enclosed herewith are pages 8, 9 and 10 of the specification

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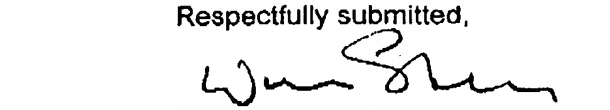
with those reference numerals highlighted in yellow, the correction of which has been and is herewith again requested in the enclosed new *Certificate of Correction*. Patentees furthermore draw the Office's attention to the fact that no changes to the specification were requested in an amendment during the prosecution of the application.

In view of the above, patentees respectfully request that the *Certificate of Correction* be issued.

Respectfully submitted,



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Date: November 14, 2006

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UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO.	:	US 6,797,377 B2
ISSUED	:	December 27, 2005
PATENTEE	:	Rainer Bünis, et al.

It is certified that errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 3, lines 45-46 should read as follows:
tools **2, 2'** (FIG. 1) or by pleating, whereby the tapes may already contain a hardenable binder. The tapes **1, 1'** corre-

Column 3, line 49 should read as follows:
As represented in FIG. 2, these tapes **1, 1'** are juxtaposed

Column 3, lines 52-55 should read as follows:
adjoining tapes **1, 1'** touch only partly, namely in the contact zones **4, 4'** and are agglutinated by using a carbonizable binder in the region of these contact zones **4, 4'**. Outside the contact zones **4, 4'**, the tapes **1, 1'** are held the desired distance

Column 3, line 67 should read as follows:
surrounded by the tapes **1, 1'** are filled by the spacers 3, so

Column 4, line 1 should read as follows:
that the shape of the tapes **1, 1'** is stabilized during subse-

Column 4, lines 4-5 should read as follows:
the tapes **1, 1'** are joined into the prebody 10 at their contact points **4, 4'**. As represented by the working line W in FIG. 3,

Column 4, lines 7-8 should read as follows:
continuously induced into all regions of the tapes **1, 1'** that include contact surfaces **4, 4'**; i.e., the mold pressure is

Column 4, lines 10-11 should reas as follows:
of a series of spacers 3 with the contact zones **4, 4'** of the tapes **1, 1'** between them. The spacers 3 need not precisely fit

Column 4, line 13 should read as follows:
contact zones **4, 4'** that are joined by intensive pressure are

Fig. 7 is a perspective view showing a component with round openings that was obtained by the agglutination of fiber formations; and

Fig. 8 is a perspective view showing an agglutination of moldable fiber formations into a second embodiment of a honeycomb structure.

Description of the Preferred Embodiments:

Referring now to the figures of the drawings in detail and first, particularly to Fig. 1 thereof, there is shown a first embodiment of the method. The prebody 10 is produced by the production of corrugated, bent or meandering tapes 1 formed from surface formations 8 containing carbon fibers by dieing (in the direction of arrow Pf1) with embossing tools 2, 2' (Fig. 1) or by pleating, whereby the tapes may already contain a hardenable binder. The tapes 1, 1' correspond to the repeating structural units of the component that is being produced.

As represented in Fig.2, these tapes 1,1' are juxtaposed with the aid of graphite spacers 3 in a high-temperature-proof graphite clamping device 5 in such a way that two adjoining tapes 1, 1' touch only partly, namely in the contact zones 4, 4', and are agglutinated by using a carbonizable binder in the region of these contact zones 4, 4'. Outside the contact

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zones 4, 4', the tapes 1, 1' are held the desired distance apart by graphite spacers 3.

Fig.3 represents the clamping device 5 in which the corrugated tapes are positioned and agglutinated and the resulting prebody 10 is then carbonized and, if necessary, graphited and/or silicated.

As schematically represented in Figs. 2 and 3, the clamping device 5 is formed substantially by a base plate or frame 5a that includes a stationary overarm 5b on one end with a profiling 5c that fits the shape of the tapes 1, and a moving die 5d on the other end, also with a profiling 5e that fits the shape of the tapes 1. The cavities 7 that are to be surrounded by the tapes 1, 1' are filled by the spacers 3, so that the shape of the tapes 1, 1' is stabilized during subsequent processing. Following the laying of the last tape, a mold pressure is exerted with the movable die 5d such that the tapes 1, 1' are joined into the prebody 10 at their contact points 4, 4'. As represented by the working line W in Fig.3, the mold pressure (arrow P2) that is exerted by the die 5d is continuously induced into all regions of the tapes 1, 1' that include contact surfaces 4, 4'; i.e., the mold pressure is induced in the correspondingly profiled overarm 5b by way of a series of spacers 3 with the contact zones 4, 4' of the tapes 1, 1' between them. The spacers 3 need not precisely

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fit the cavity 7 that is to be formed. Only the regions of the contact zones 4, 4' that are joined by intensive pressure are critical.

Figs. 4 to 7 exemplarily represent components 6 that can be produced by the inventive method. The openings 7 of the component 6 that the tapes 1, 1' surround can be honeycomb shaped (Fig. 4), quadrilateral, square (Fig. 5), rectangular (Fig. 6), or round (Fig. 7). Because the tapes are preformed, the spacers 3 need not necessarily have the same shape as the openings 7 that are surrounded by the tapes 1, 1'. It is enough to construct the spacers such that they hold the tapes 1, 1' the desired distance apart.

The method includes the repeating sequence of inserting new spacers 3 and attaching a new tape 1 and, if need be, depositing a carbonizable glue if the new tape is not already furnished with glue or binder. The hardening of the glue preferably does not take place with each new tape 1 that is attached, but rather after the attachment of the last tape when the prebody 10 already has its final shape formed by repeating structural units.

The rigidity of the prebody 10 during its construction can be enhanced by hardening after the attachment of each new tape 1.

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